

height of 3,000 feet, is amongst the most remarkable of the great Quaternary European productions. It is chiefly formed of two great beds ; the lower a bluish argillaceous marl, the other a coarse but very compact limestone, both containing shells analogous to those of the present Mediterranean coast. The same formation is found in the neighbouring islands, especially in Sardinia and Malta. The great sandy deserts of Africa, as well as the argillo-arenaceous formation of the steppes of Eastern Russia, and the fertile Tchorozem, or "*black earth*" of its southern plains, have the same geological origin ; so have the Travertines of Tuscany, Naples, and Rome, and the Tufas, which are an essential constituent of the Neapolitan soil.

The pampas of South America—which consist of an argillaceous soil of a deep reddish-brown colour, with horizontal beds of marly clay and calcareous tufa, containing shells either actually living now in the Atlantic, or identical with fresh-water shells of the country—ought surely to be considered as a Quaternary deposit, of even greater extent than the preceding.

We are now approaching so near to our own age, that we can, as it were, trace the hand of Nature in her works. Professor Ramsay shows, in the Memoirs of the Government Geological Survey, that beds nearly a mile in thickness have been removed by denudation from the summit of the Mendip Hills, and that broad areas in South Wales and the neighbouring counties have been denuded of their higher beds, the materials being transported elsewhere to form newer strata. Now, no combination of causes has been imagined which has not involved submersion during long periods, and subsequent elevation for periods of longer or shorter duration.

We can hardly walk any great distance along the coast, either of England or Scotland, without remarking some flat terrace of unequal breadth, and backed by a more or less steep escarpment—upon such a terrace many of the towns along the coast are built. No geologist now doubts that this fine platform, at the base of which is a deposit of loam or sandy gravel, with marine shells, had been, at some period, the line of coast against which the waves of the ocean once broke at high water. At that period the sea rose twenty, and thirty, and some places a hundred feet higher than it does now. The ancient sea-beaches in some places formed terraces of sand and gravel, with littoral shells, some broken, others entire, and corresponding with species in the seas below ; in others they form bold projecting promontories or deep bays. In an historical point of view, this coast-line should be very ancient, though it may be only of yesterday in a geological sense—its origin ascending far beyond written tradition.